RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/560,299
Source: IFWP
Date Processed by STIC: 12/20/05

ENTERED

IFWP

RAW SEQUENCE LISTING DATE: 12/20/2005
PATENT APPLICATION: **US/10/560,299** TIME: 11:26:24

Input Set : **A:\08321-110PC2 SEQLIST.txt**
Output Set: **N:\CRF4\12202005\J560299.raw**

```
      4 <110> APPLICANT: Thomas Jefferson University
      7 <120> TITLE OF INVENTION: RECOMBINANT ANTIBODIES AND COMPOSITIONS
      8       AND METHODS FOR MAKING AND USING THE SAME
     11 <130> FILE REFERENCE: 08321-110PC2
C--> 13 <140> CURRENT APPLICATION NUMBER: US/10/560,299
C--> 13 <141> CURRENT FILING DATE: 2005-12-12
     13 <150> PRIOR APPLICATION NUMBER: US 10/461,148
     14 <151> PRIOR FILING DATE: 2003-06-13
     17 <160> NUMBER OF SEQ ID NOS: 24
     19 <170> SOFTWARE: FastSEQ for Windows Version 4.0
     21 <210> SEQ ID NO: 1
     22 <211> LENGTH: 474
     23 <212> TYPE: PRT
     24 <213> ORGANISM: Human
     26 <400> SEQUENCE: 1
     27 Met Glu Phe Gly Leu Ser Trp Leu Phe Leu Val Ala Ile Leu Lys Gly
     28  1               5                  10                  15
     29 Val Gln Cys Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
     30             20                  25                  30
     31 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
     32         35                  40                  45
     33 Ser Asn Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
     34     50                  55                  60
     35 Glu Trp Val Ser Ala Ile Ser Ala Ser Gly His Ser Thr Tyr Leu Ala
     36 65                  70                  75                  80
     37 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
     38                 85                  90                  95
     39 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
     40             100                 105                 110
     41 Tyr Tyr Cys Ala Lys Asp Arg Glu Val Thr Met Ile Val Val Leu Asn
     42         115                 120                 125
     43 Gly Gly Phe Asp Tyr Trp Gly Gln Gly Thr Arg Val Thr Val Ser Ser
     44     130                 135                 140
     45 Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
     46 145                 150                 155                 160
     47 Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
     48                 165                 170                 175
     49 Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
     50             180                 185                 190
     51 Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
     52         195                 200                 205
     53 Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
     54     210                 215                 220
```

p.6

RAW SEQUENCE LISTING DATE: 12/20/2005
PATENT APPLICATION: **US/10/560,299** TIME: 11:26:24

Input Set : **A:\08321-110PC2 SEQLIST.txt**
Output Set: **N:\CRF4\12202005\J560299.raw**

```
55 Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
56 225                 230                 235                 240
57 Arg Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
58                  245                 250                 255
59 Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
60              260                 265                 270
61 Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
62          275                 280                 285
63 Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
64      290                 295                 300
65 Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
66 305                 310                 315                 320
67 Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
68                  325                 330                 335
69 His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
70              340                 345                 350
71 Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
72          355                 360                 365
73 Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
74      370                 375                 380
75 Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
76 385                 390                 395                 400
77 Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
78                  405                 410                 415
79 Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
80              420                 425                 430
81 Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
82          435                 440                 445
83 Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
84      450                 455                 460
85 Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
86 465                 470
89 <210> SEQ ID NO: 2
90 <211> LENGTH: 234
91 <212> TYPE: PRT
92 <213> ORGANISM: Human
94 <400> SEQUENCE: 2
95 Met Glu Ala Pro Ala Gln Leu Leu Phe Leu Leu Leu Leu Trp Leu Pro
96  1               5                  10                  15
97 Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser
98              20                  25                  30
99 Leu Ser Pro Gly Glu Arg Ala Thr Leu Ala Cys Arg Ala Ser Gln Thr
100         35                  40                  45
101 Ala Ser Arg Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
102     50                  55                  60
103 Arg Leu Leu Ile Tyr Asp Thr Ser Asn Arg Ala Thr Gly Ile Pro Ala
104 65                  70                  75                  80
105 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Ser Ile Ser
106                 85                  90                  95
```

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Input Set : **A:\08321-110PC2 SEQLIST.txt**
Output Set: **N:\CRF4\12202005\J560299.raw**

```
107 Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Phe
108             100                 105                 110
109 Asn Trp Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Phe Lys Arg
110         115                 120                 125
111 Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
112     130                 135                 140
113 Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
114 145                 150                 155                 160
115 Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
116                 165                 170                 175
117 Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
118             180                 185                 190
119 Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
120         195                 200                 205
121 His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
122     210                 215                 220
123 Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
124 225                 230
127 <210> SEQ ID NO: 3
128 <211> LENGTH: 1557
129 <212> TYPE: DNA
130 <213> ORGANISM: Human
132 <400> SEQUENCE: 3
133 atggacacac tttgctccac gctcctgctg ctgaccatcc cttcatgggt cttgtcccaa 60
134 attaccttga aggagactgg tcctacgctg gtgaaaccca cacagaccct cacgctgacc 120
135 tgcaccttct cggggttctc actcagcact agtggagtgg gtgtgggctg gatccgtcag 180
136 cccccaggaa aggccctgga gtgggttaca ctcatttatt gggatgatga taagcgttac 240
137 agtccatctc tggagaacag ggtcaccatc aggaaggaca cctccaaaaa ccaggtggct 300
138 cttacaatga cgaacatgga ccctttggac acaggcacat actactgtgc gcacagacaa 360
139 catatcagca gcttcccgtg gttcgattcc tggggccagg gaaccctggt caccgtctcc 420
140 tcagcttcca ccaagggccc atcggtcttc cccctggcgc cctgctccag gagcacctct 480
141 gggggcacag cggccctggg ctgcctggtc aaggactact tccccgagcc ggtgacggtg 540
142 tcgtggaact caggcgccct gaccagcggc gtgcacacct tcccggctgt cctacagtcc 600
143 tcaggactct actccctcag cagcgtggtg accgtgccct ccagcagctt gggcacccag 660
144 acctacacct gcaacgtgaa tcacaagccc agcaacacca aggtggacaa gagagttgag 720
145 ctcaaaaccc cacttggtga cacaactcac acatgcccac ggtgcccaga gcccaaatct 780
146 tgtgacacac ctcccccgtg cccacggtgc ccagagccca aatcttgtga cacacctccc 840
147 ccgtgcccac ggtgcccaga gcccaaatct tgtgacacac ctcccccatg cccacggtgc 900
148 ccagcacctg aactcctggg aggaccgtca gtcttcctct tcccccaaa acccaaggat 960
149 acccttatga tttcccggac ccctgaggtc acgtgcgtgg tggtggacgt gagccacgaa 1020
150 gaccccgagg tccagttcaa gtggtacgtg gacggcgtgg aggtgcataa tgccaagaca 1080
151 aagccgcggg aggagcagtt caacagcacg ttccgtgtgg tcagcgtcct caccgtcctg 1140
152 caccaggact ggctgaacgg taaggagtac aagtgcaagg tctccaacaa agccctccca 1200
153 gcccccatcg agaaaaccat ctccaaaacc aaaggacagc cccgagaacc acaggtgtac 1260
154 accctgcccc catcccggga ggagatgacc aagaaccagg tcagcctgac ctgcctggtc 1320
155 aaaggcttct accccagcga catcgccgtg gagtgggaga gcagcgggca gccggagaac 1380
156 aactacaaca ccacgcctcc catgctggac tccgacggct ccttcttcct ctacagcaag 1440
157 ctcaccgtgg acaagagcag gtggcagcag gggaacatct tctcatgctc cgtgatgcat 1500
158 gaggctctgc acaaccgctt cacgcagaag agcctctccc tgtctccggg taaatga    1557
```

RAW SEQUENCE LISTING DATE: 12/20/2005
PATENT APPLICATION: **US/10/560,299** TIME: 11:26:24

Input Set : **A:\08321-110PC2 SEQLIST.txt**
Output Set: **N:\CRF4\12202005\J560299.raw**

<210> SEQ ID NO: 4
<211> LENGTH: 518
<212> TYPE: PRT
<213> ORGANISM: Human
<400> SEQUENCE: 4

```
Met Asp Thr Leu Cys Ser Thr Leu Leu Leu Leu Thr Ile Pro Ser Trp
 1               5                  10                  15
Val Leu Ser Gln Ile Thr Leu Lys Glu Thr Gly Pro Thr Leu Val Lys
            20                  25                  30
Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu
        35                  40                  45
Ser Thr Ser Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys
    50                  55                  60
Ala Leu Glu Trp Val Thr Leu Ile Tyr Trp Asp Asp Asp Lys Arg Tyr
65                  70                  75                  80
Ser Pro Ser Leu Glu Asn Arg Val Thr Ile Arg Lys Asp Thr Ser Lys
                85                  90                  95
Asn Gln Val Ala Leu Thr Met Thr Asn Met Asp Pro Leu Asp Thr Gly
            100                 105                 110
Thr Tyr Tyr Cys Ala His Arg Gln His Ile Ser Ser Phe Pro Trp Phe
        115                 120                 125
Asp Ser Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr
    130                 135                 140
Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser
145                 150                 155                 160
Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu
                165                 170                 175
Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His
            180                 185                 190
Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser
        195                 200                 205
Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Thr Cys
    210                 215                 220
Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
225                 230                 235                 240
Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr Cys Pro Arg Cys Pro
                245                 250                 255
Glu Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro Glu
            260                 265                 270
Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro Glu Pro
        275                 280                 285
Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro Ala Pro Glu
    290                 295                 300
Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
305                 310                 315                 320
Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
                325                 330                 335
Val Ser His Glu Asp Pro Glu Val Gln Phe Lys Trp Tyr Val Asp Gly
            340                 345                 350
```

RAW SEQUENCE LISTING DATE: 12/20/2005
PATENT APPLICATION: US/10/560,299 TIME: 11:26:24

Input Set : A:\08321-110PC2 SEQLIST.txt
Output Set: N:\CRF4\12202005\J560299.raw

```
210 Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn
211         355                 360                 365
212 Ser Thr Phe Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
213     370                 375                 380
214 Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
215 385                 390                 395                 400
216 Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu
217                 405                 410                 415
218 Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
219             420                 425                 430
220 Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
221         435                 440                 445
222 Ala Val Glu Trp Glu Ser Ser Gly Gln Pro Glu Asn Asn Tyr Asn Thr
223     450                 455                 460
224 Thr Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
225 465                 470                 475                 480
226 Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Ile Phe Ser Cys
227                 485                 490                 495
228 Ser Val Met His Glu Ala Leu His Asn Arg Phe Thr Gln Lys Ser Leu
229             500                 505                 510
230 Ser Leu Ser Pro Gly Lys
231         515
234 <210> SEQ ID NO: 5
235 <211> LENGTH: 699
236 <212> TYPE: DNA
237 <213> ORGANISM: Human
239 <400> SEQUENCE: 5
240 atggcctgga ccgttctcct cctcggcctc ctctctcact gcacagggtc tgtgacgtcc 60
241 tatgtgctga ctcagccacc ctcggtgtca gtggccccag gaaagacggc caggattaac 120
242 tgtgggggaa acaacattga atatagaagt gtgcactggt accagcagaa gtcaggccag 180
243 gcccctgtag cggtcatcta tgataatagt gaccggccct cagggatccc tgagcgattc 240
244 tctggttcca aatctgggaa cacggccacc ctgaccatca gcagggtcga agccggggat 300
245 gaggccgact attactgtca ggtgtgggat attagtagtg atgtggtctt cggcggaggg 360
246 accaagctga ccgtcctagg tcagcccaag gctgcccctc cggtcactct gttcccgccc 420
247 tcctctgagg agcttcaagc caacaaggcc acactggtgt gtctcataag tgacttctac 480
248 ccgggagccg tgacagtggc ctggaaggca gatagcagcc ccgtcaaggc gggagtggag 540
249 accaccacac cctccaaaca aagcaacaac aagtacgcgg ccagcagcta tctgagcctg 600
250 acgcctgagc agtggaagtc ccacagaagc tacagctgcc aggtcacgca tgaagggagc 660
251 accgtggaga agacagtggc ccctacagaa tgttcatag                       699
253 <210> SEQ ID NO: 6
254 <211> LENGTH: 232
255 <212> TYPE: PRT
256 <213> ORGANISM: Human
258 <400> SEQUENCE: 6
259 Met Ala Trp Thr Val Leu Leu Leu Gly Leu Leu Ser His Cys Thr Gly
260  1               5                  10                  15
261 Ser Val Thr Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala
262             20                  25                  30
263 Pro Gly Lys Thr Ala Arg Ile Asn Cys Gly Gly Asn Asn Ile Glu Tyr
```

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 12/20/2005
PATENT APPLICATION: **US/10/560,299** TIME: 11:26:25

Input Set : **A:\08321-110PC2 SEQLIST.txt**
Output Set: **N:\CRF4\12202005\J560299.raw**

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:17; N Pos. 37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56

VERIFICATION SUMMARY DATE: 12/20/2005
PATENT APPLICATION: **US/10/560,299** TIME: 11:26:25

Input Set : **A:\08321-110PC2 SEQLIST.txt**
Output Set: **N:\CRF4\12202005\J560299.raw**

L:13 M:270 C: Current Application Number differs, Replaced Current Application No
L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:552 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:556 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:17
L:557 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0